



RECONSTRUCTED AND RENDERED IMAGE

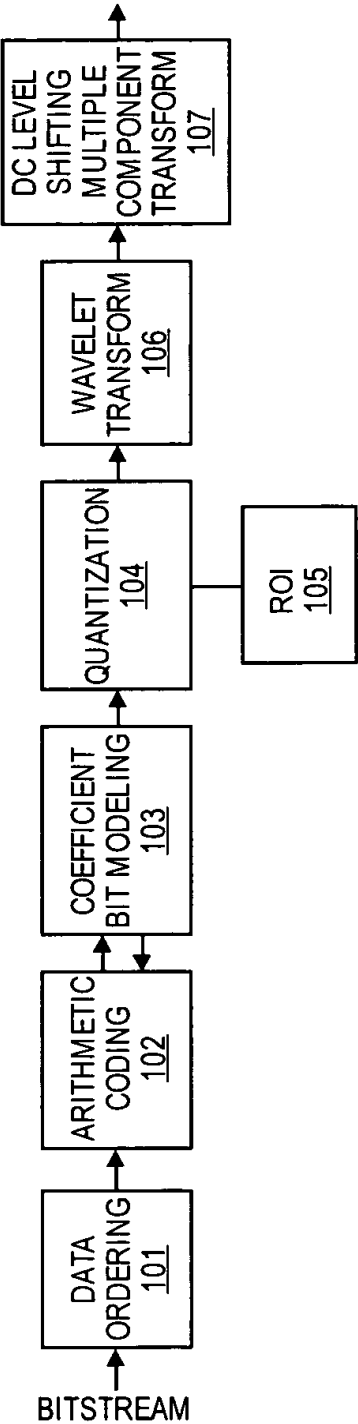


FIG. 1  
(PRIOR ART)

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SP 0	SP 4	C 8	C 12	C 16	C 20	C 24	C 28
R 1	SP 5	C 9	C 13	C 17	C 21	C 25	C 29
R 2	SP 6	SP 10	SP 14	SP 18	C 22	C 26	C 30
SP 3	SP 7	R 11	R 15	SP 19	C 23	C 27	C 31
C 32	SP 36	SP 40	SP 44	SP 48	C 52	C 56	C 60
C 33	C 37	C 41	C 45	C 49	C 53	C 57	C 61
C 34	C 38	C 42	C 46	C 50	C 54	C 58	C 62
C 25	C 39	C 43	C 47	C 51	C 55	C 59	C 63

FIG. 2A  
(PRIOR ART)



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

MICHAEL J. GORMISH, ET AL.

Application No.: 09/823,739

Filed: March 30, 2001

For: **METHOD AND APPARATUS FOR  
ASSIGNING CODEBLOCKS TO CODERS  
OPERATING IN PARALLEL**

Art Group: 2625

Examiner: Timothy M. Johnson

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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Technology Center 2600

**TRANSMITTAL OF FORMAL DRAWINGS**

Sir:

Enclosed herewith for filing in the above-identified U.S. Patent Application are the formal drawings, 26 sheets including 38 Figures. Please charge any additional fees or credit any overpayment to Deposit Account No. 02-2666. A duplicate copy of the Fee Transmittal is enclosed for this purpose.

Respectfully submitted,

Blakely, Sokoloff, Taylor & Zafman LLP

Dated: September 2, 2004

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**CERTIFICATE OF MAILING/TRANSMISSION**

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
Ines Francetic

09/02/04

Date

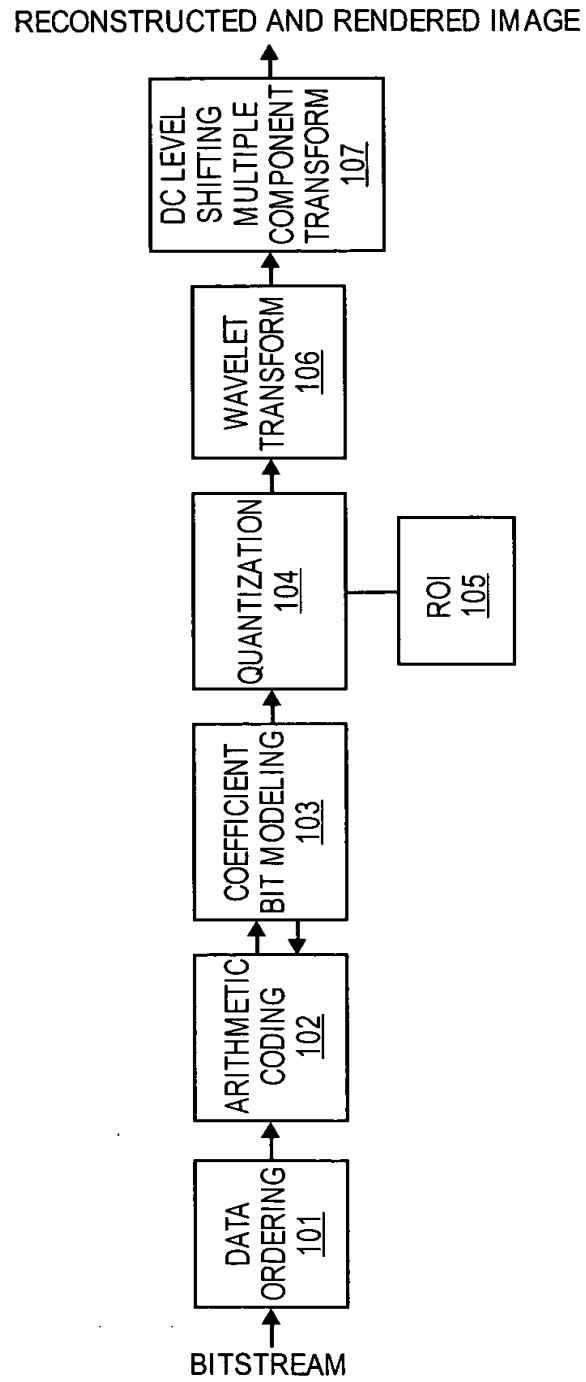


FIG. 1  
(PRIOR ART)



SP 0	SP 4	C 8	C 12	C 16	C 20	C 24	C 28
R 1	SP 5	C 9	C 13	C 17	C 21	C 25	C 29
R 2	SP 6	SP 10	SP 14	SP 18	C 22	C 26	C 30
SP 3	SP 7	R 11	R 15	SP 19	C 23	C 27	C 31
C 32	SP 36	SP 40	SP 44	SP 48	C 52	C 56	C 60
C 33	C 37	C 41	C 45	C 49	C 53	C 57	C 61
C 34	C 38	C 42	C 46	C 50	C 54	C 58	C 62
C 25	C 39	C 43	C 47	C 51	C 55	C 59	C 63

FIG. 2A  
(PRIOR ART)

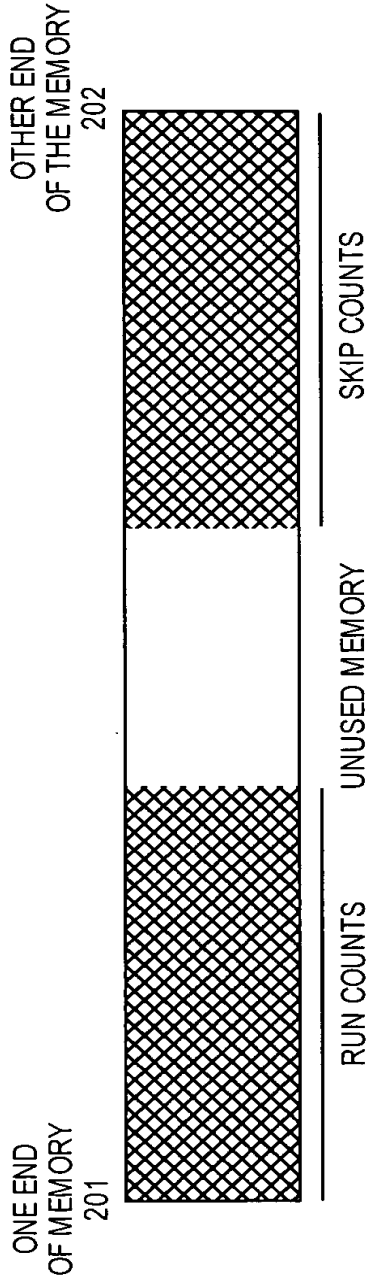


FIG. 2B

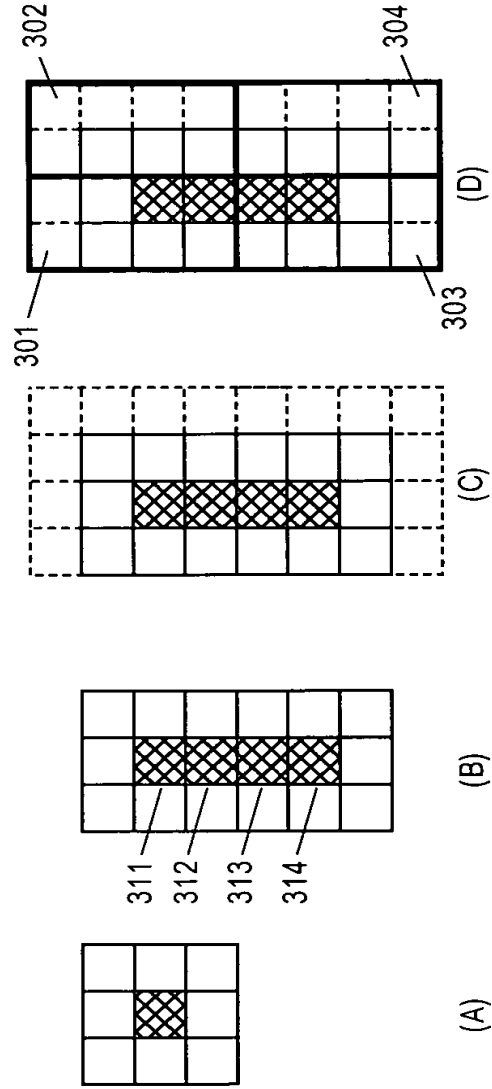


FIG. 3



	0	1	2	3	4	5	6	7
0	A	B	A	B	A	B	A	B
1	C	D	C	D	C	D	C	D
2	A	B	A	B	A	B	A	B
3	C	D	C	D	C	D	C	D
0	A	B	A	B	A	B	A	B

FIG. 4

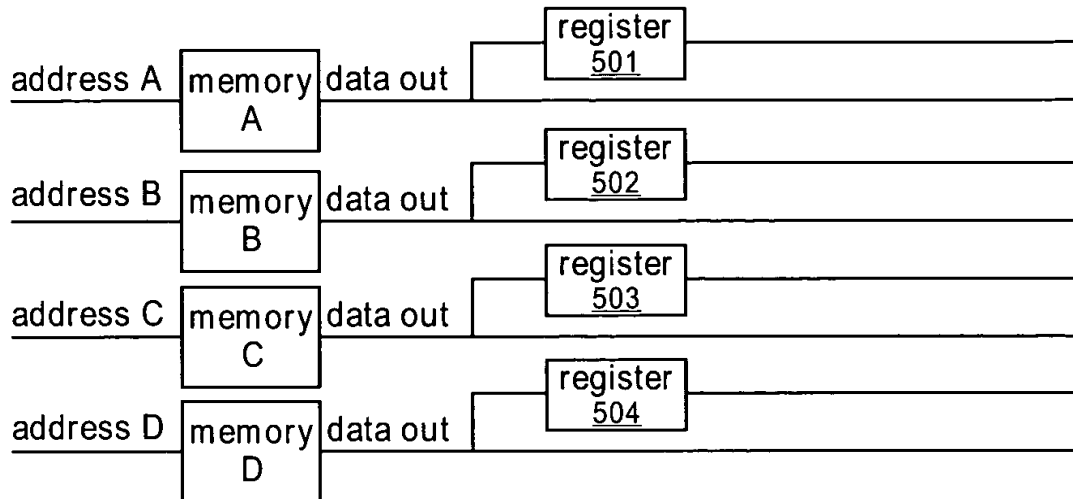


FIG. 5

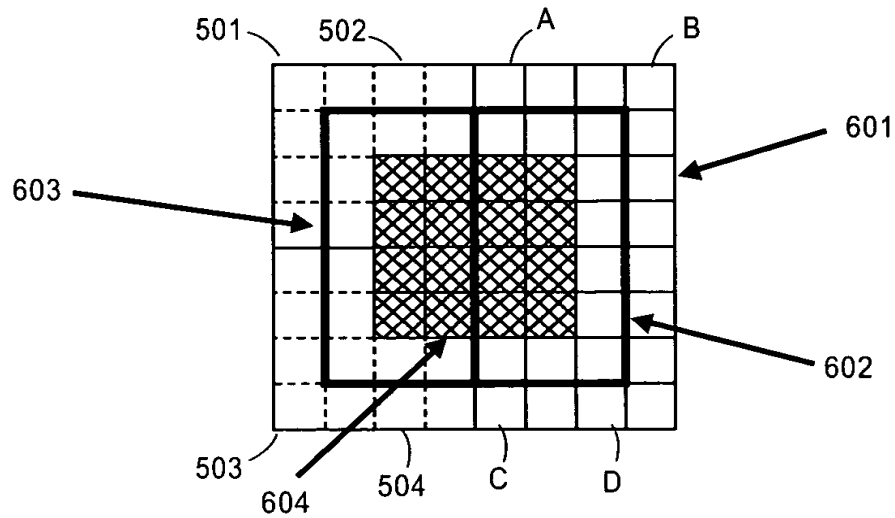


FIG. 6



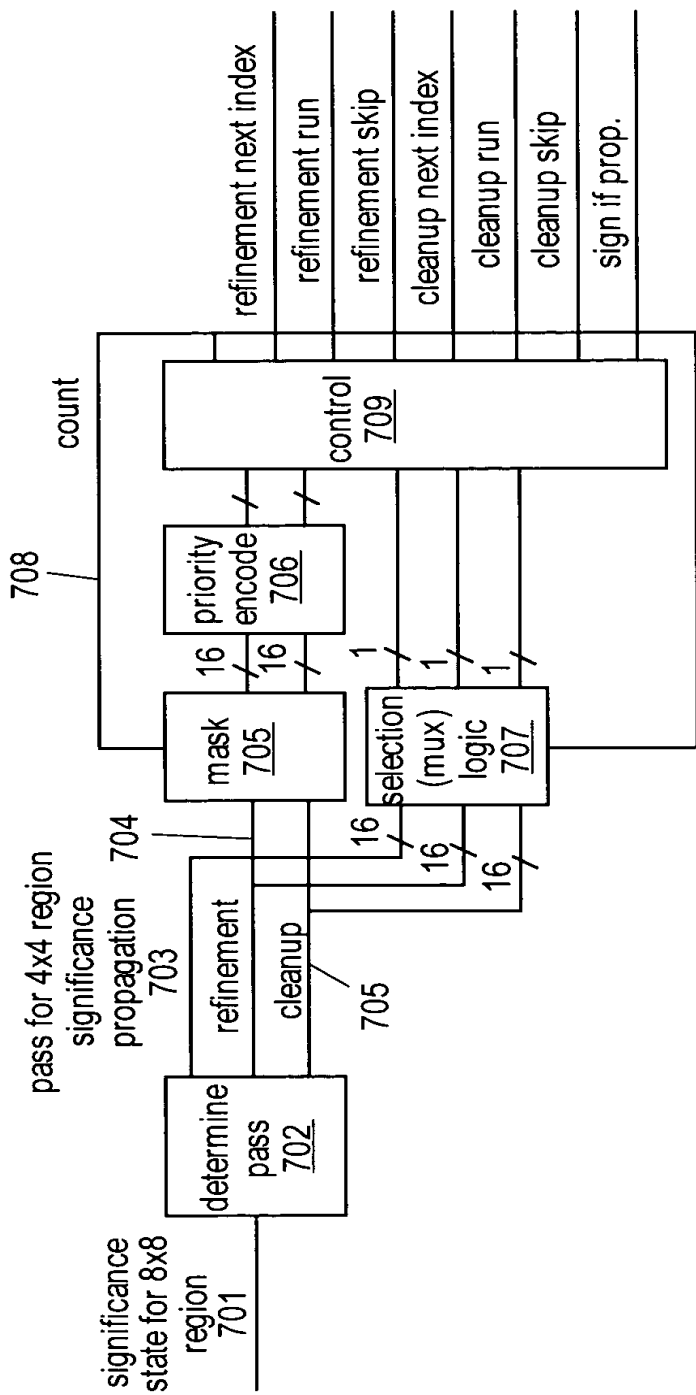


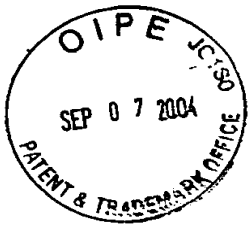
FIG. 7

SP pass:  $10 \times 2$  for SP pass coefficients  
6 for C and R pass coefficients  
C pass:  $4 \times 2$  for C pass coefficients  
R pass: 2 for R pass  
total: 36 clocks = 2.25 clocks per coefficient

SP = significance propagation  
C = cleanup  
R = refinement

SP	SP	SP	SP
C	C	C	C
SP	SP	SP	SP
SP	R	R	SP

FIG. 8



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	0	1	2	3
0	A	A	A	A
1	B	B	B	B
2	A	A	A	A
3	B	B	B	B
0	A	A	A	A

FIG. 9

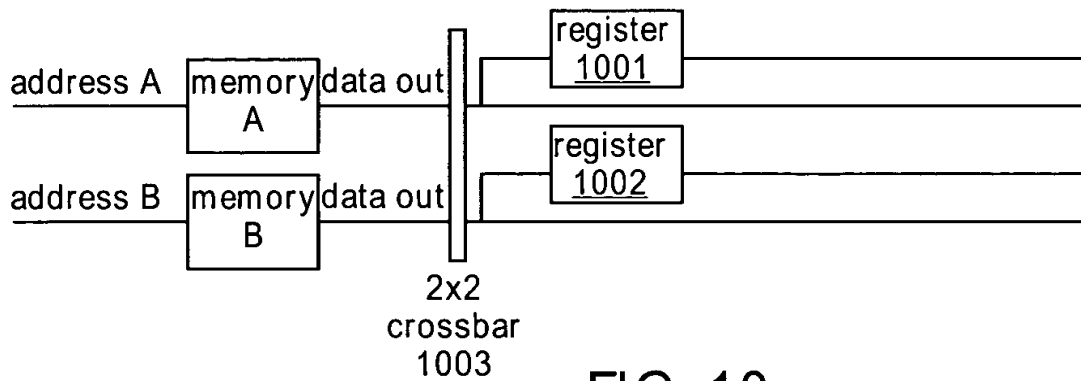


FIG. 10

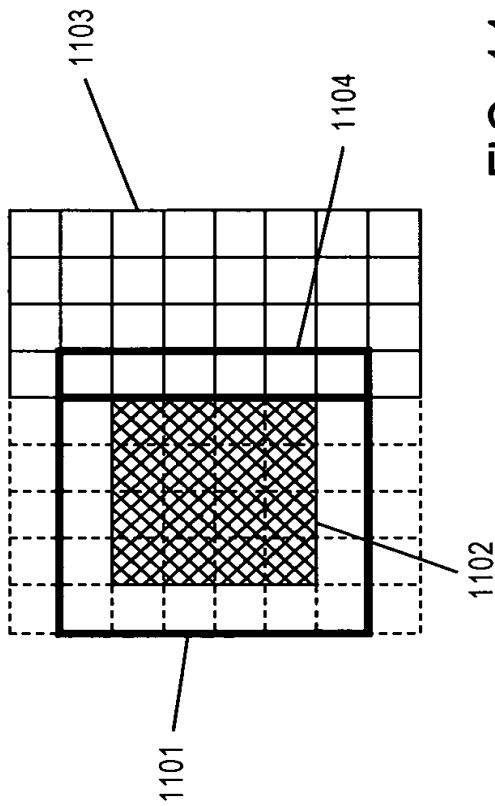


FIG. 11

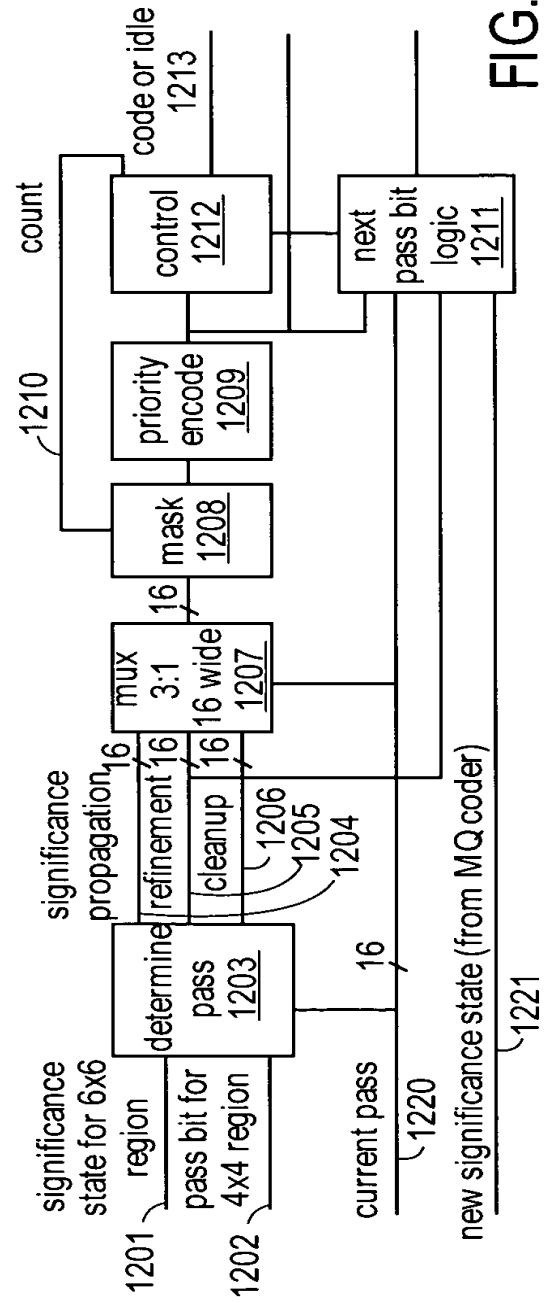


FIG. 12

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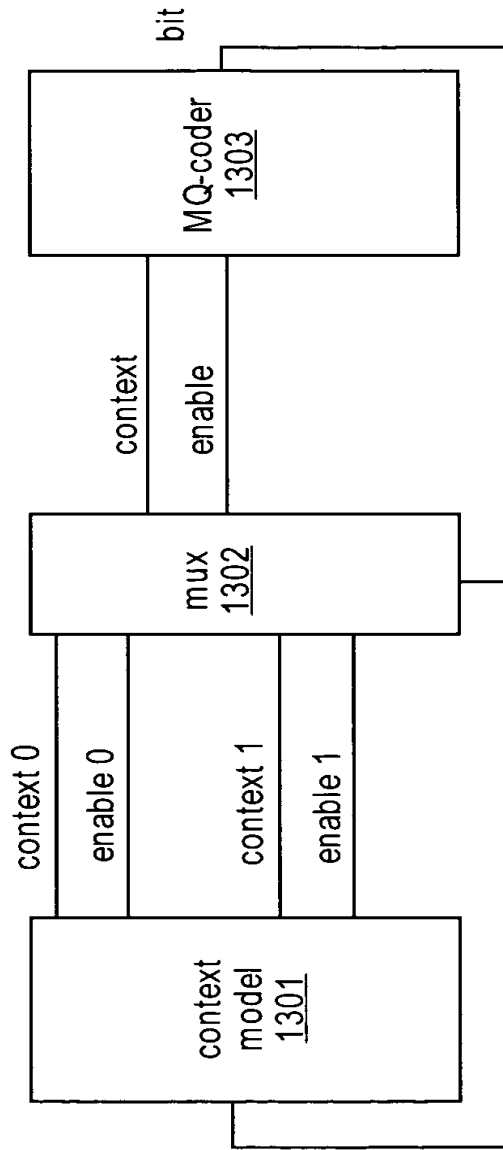


FIG. 13

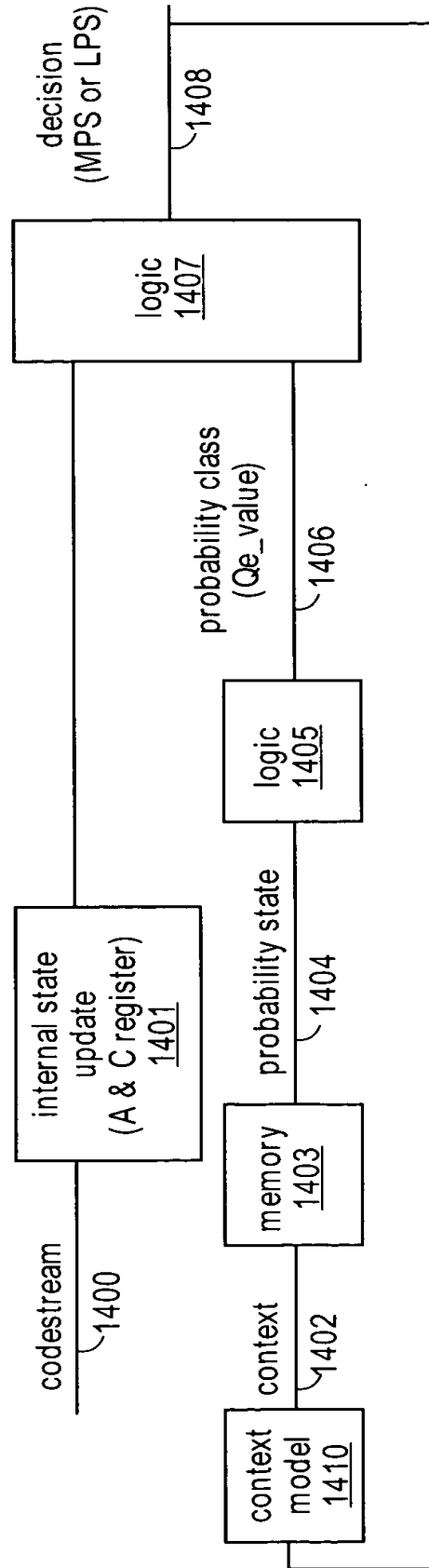


FIG. 14A

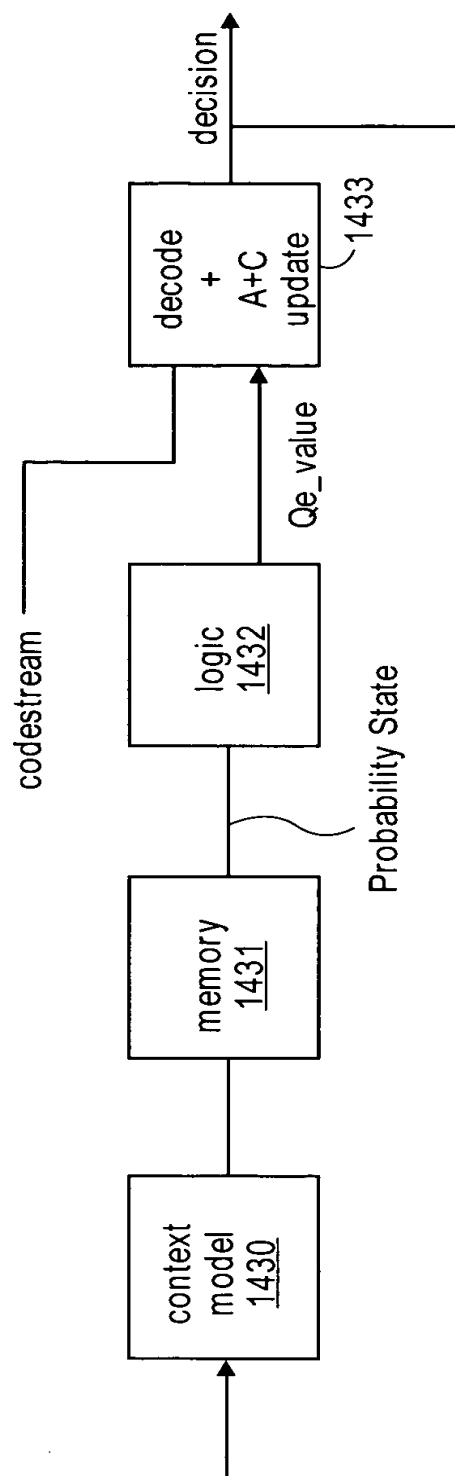


FIG. 14B

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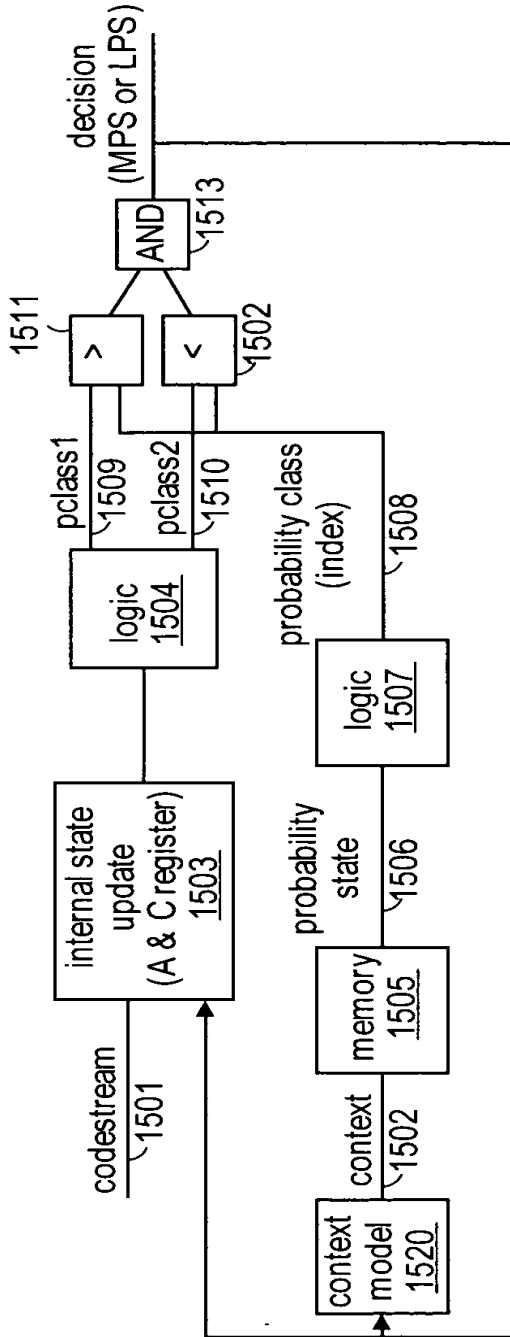


FIG. 15

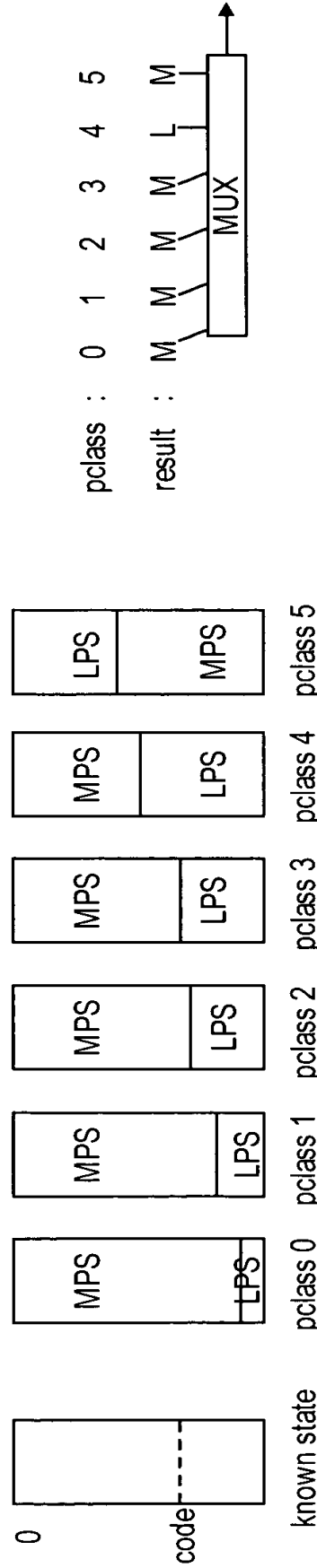


FIG. 16B

FIG. 16A



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5MPS
4 MPS
3 MPS
2 MPS
1 MPS
LPS

FIG. 17

luminance

chrominance

chrominance

A	A	A	D
A	A		
A		A	
A		A	

B	B	B	D
B	B		
B		B	
B		B	

C	C	C	D
C	C		
C		C	
C		C	

(A)

A	A	A	B
A	A		
A		A	
B			A

C	C	C	D
C	C		
C		C	
D		C	

E	E	E	F
E	E		
E		E	
F		E	

(B)

F	F	B	C
F	F		
A		A	
A			B

G	G	C	F
G	G		
B		C	
D			H

E	E	E	E
E	E		
D		D	
G		H	

(C)

FIG. 18



luminance				chrominance				chrominance			
A	A	A	B	C	C	C		D	D	D	
A	A			C	C			D	D		
A		A		C		C		D		D	
B			A	C				D			

(A)

F	F	F	C	B	B	C		D	D	F	
A	A			C	C			E	E		
F		F		A		B		D		E	
A			B	D				E			

(B)

A	A	A	C	E	E	E		G	G	G	
A	A			E	E			G	G		
A		A		E		E		G		G	
B			D	F				H			

(C)

FIG. 19

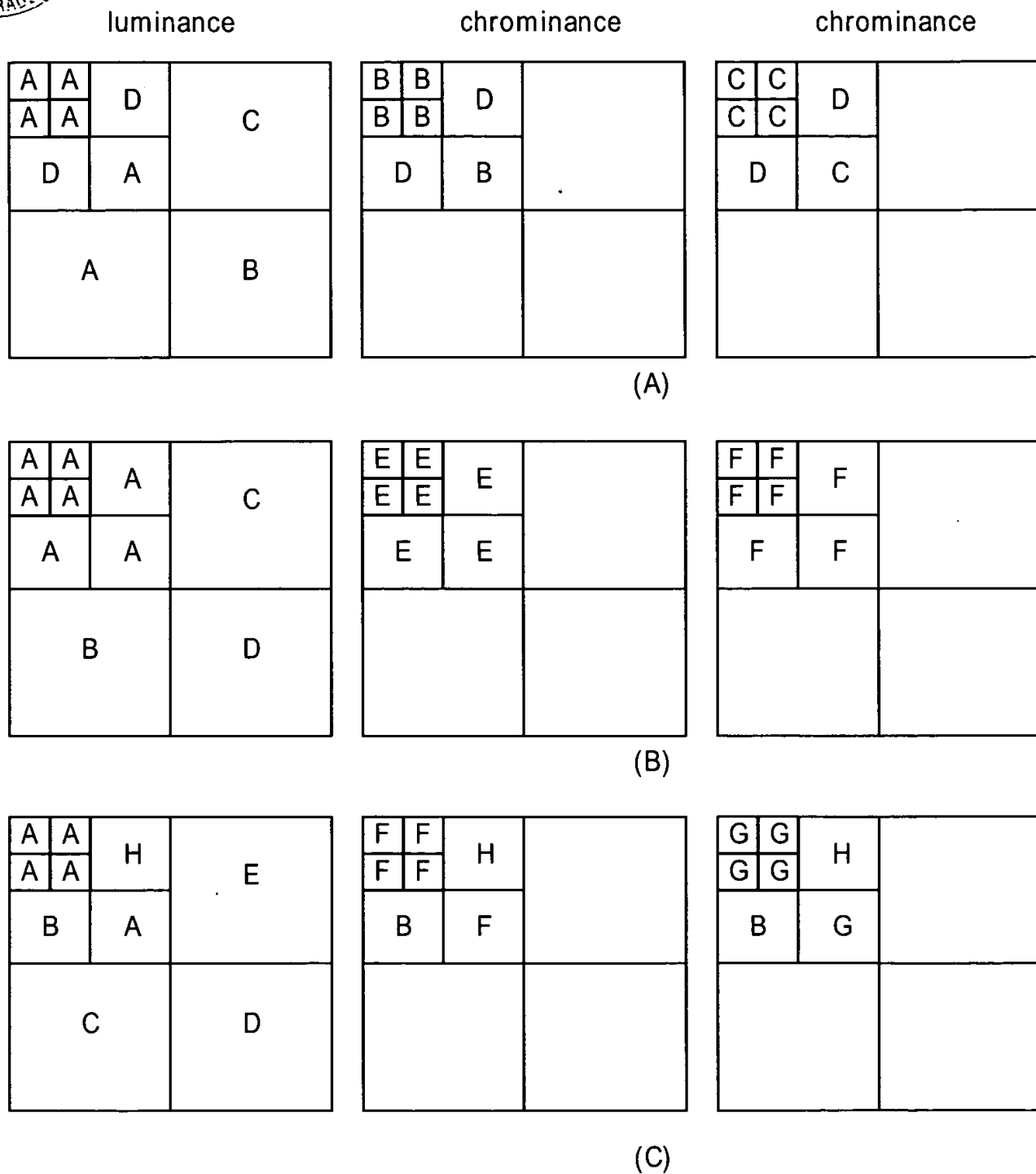


FIG. 20

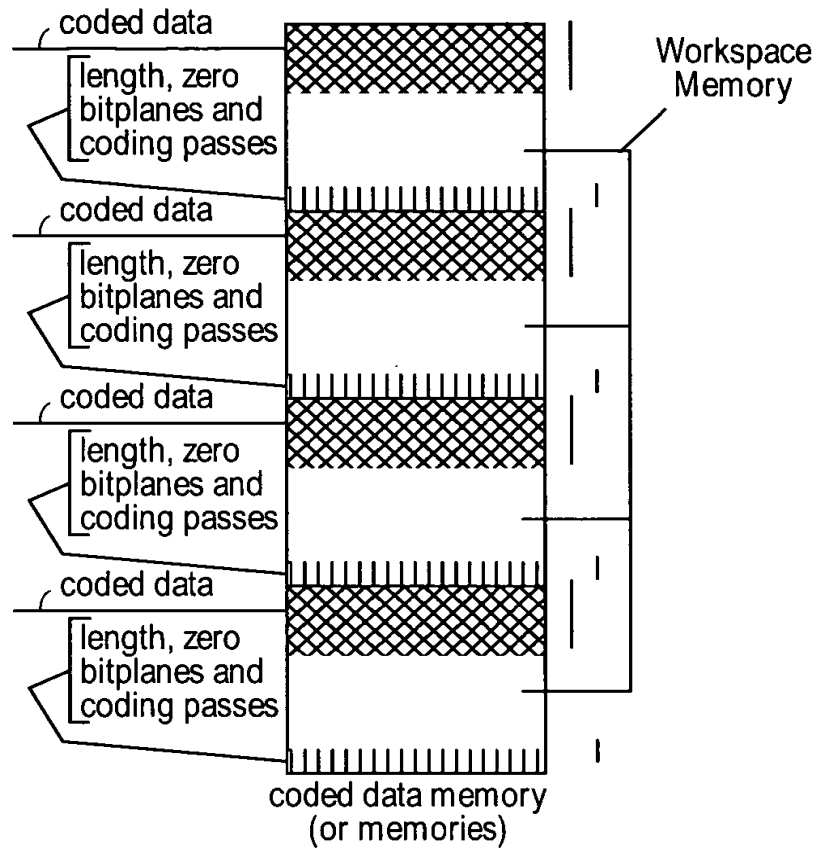


FIG. 21

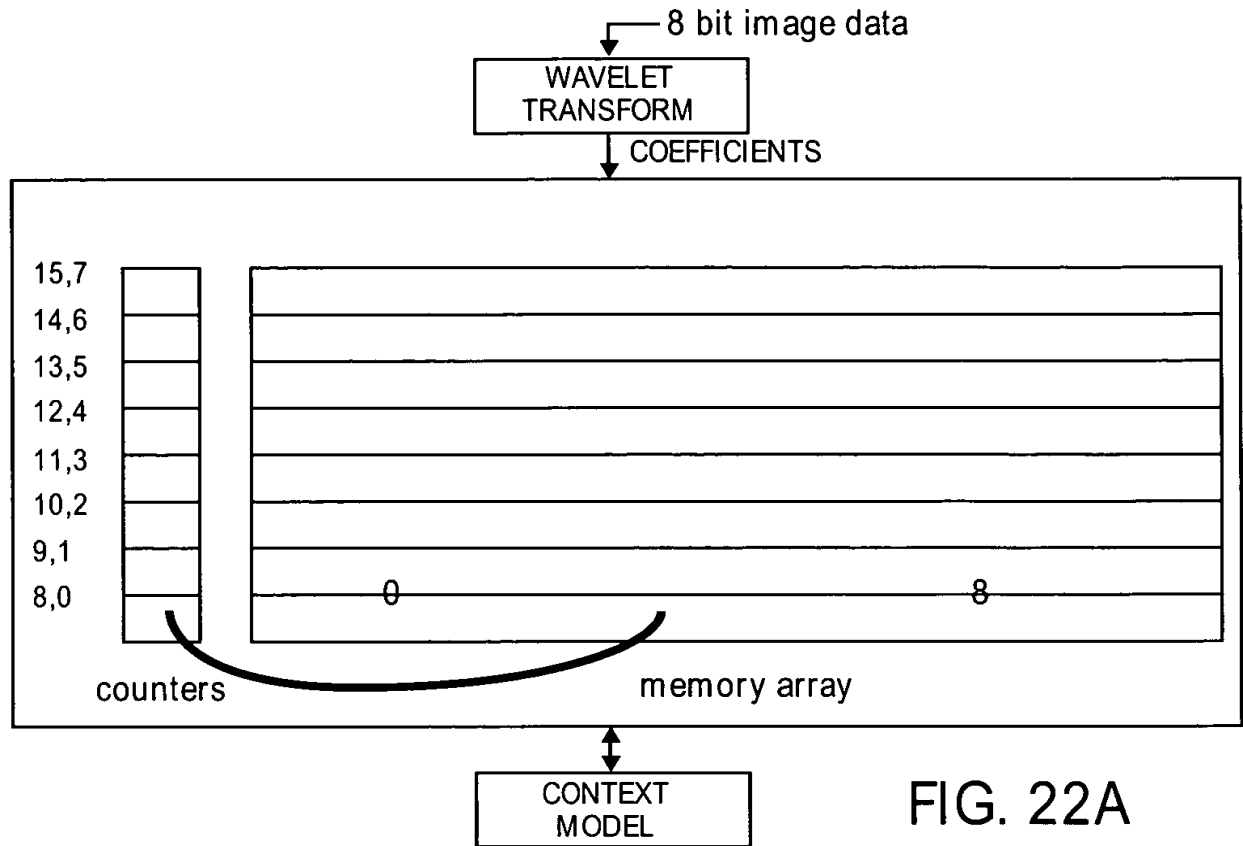


FIG. 22A

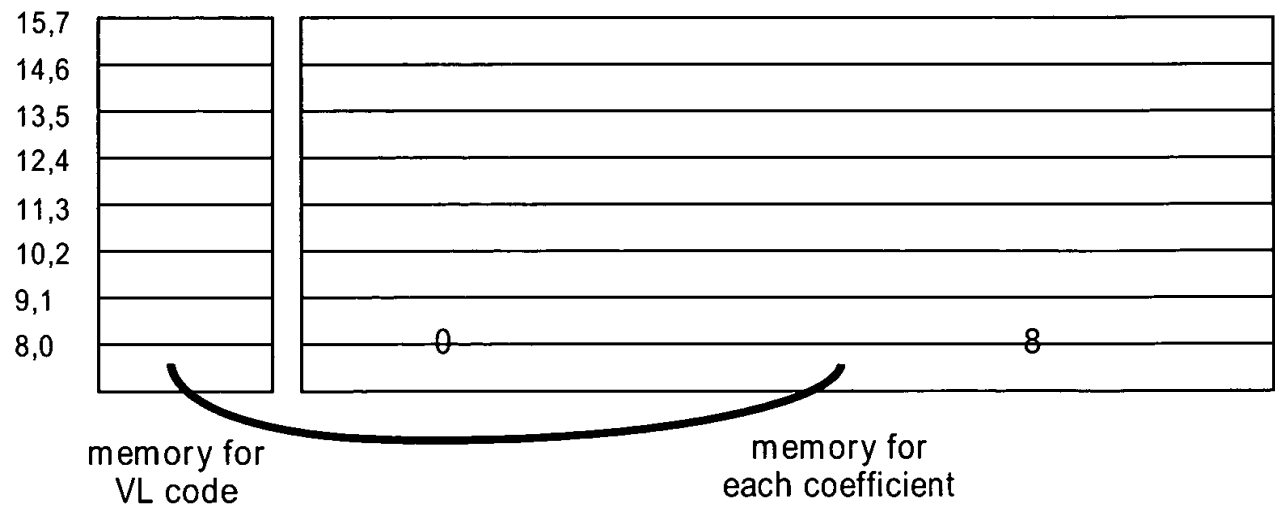


FIG. 23

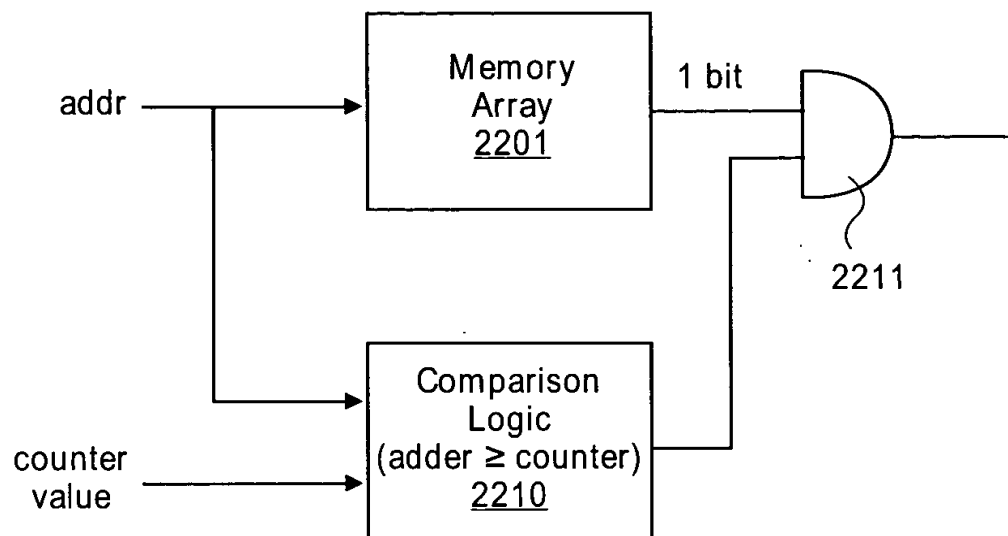
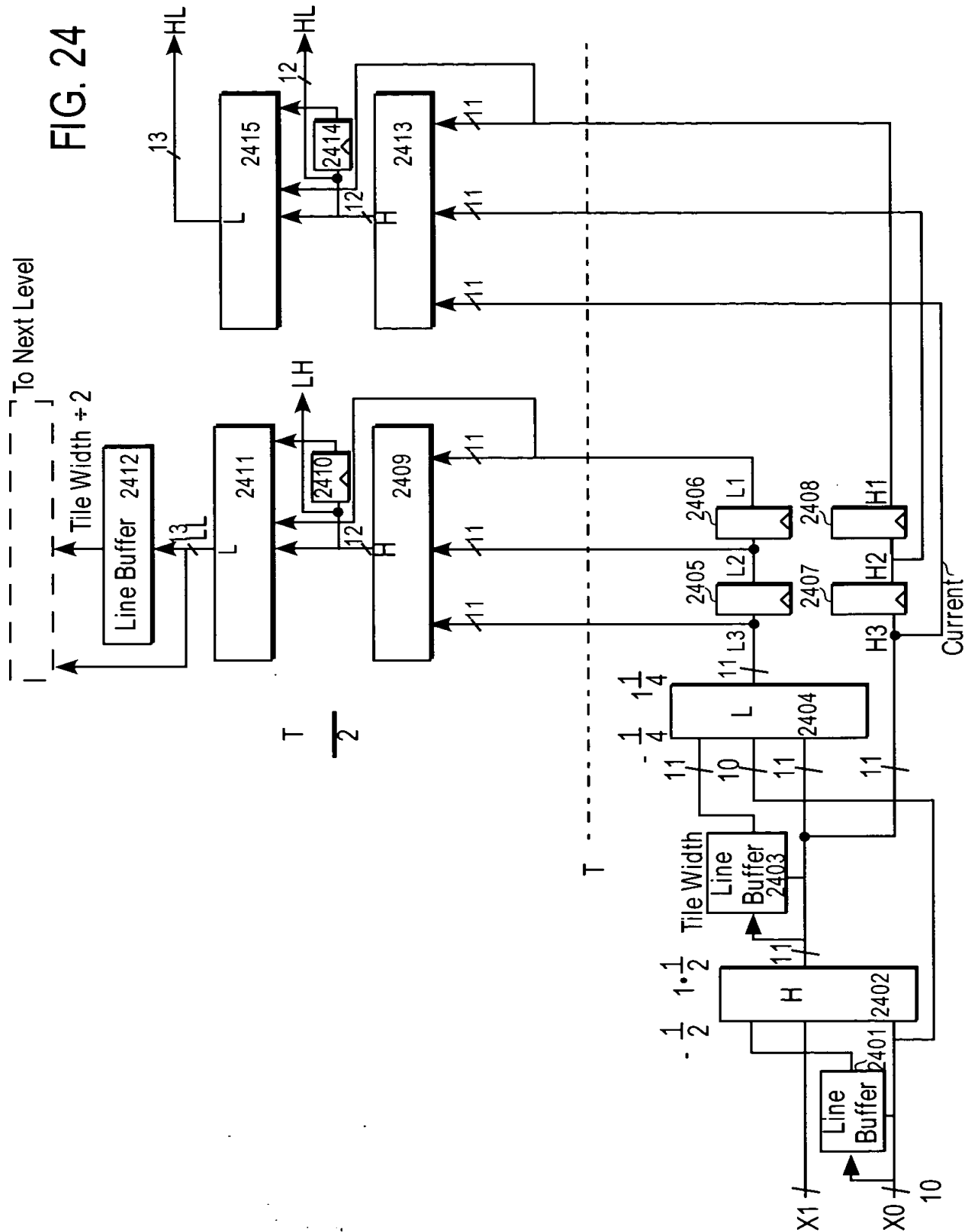


FIG. 22B

FIG. 24



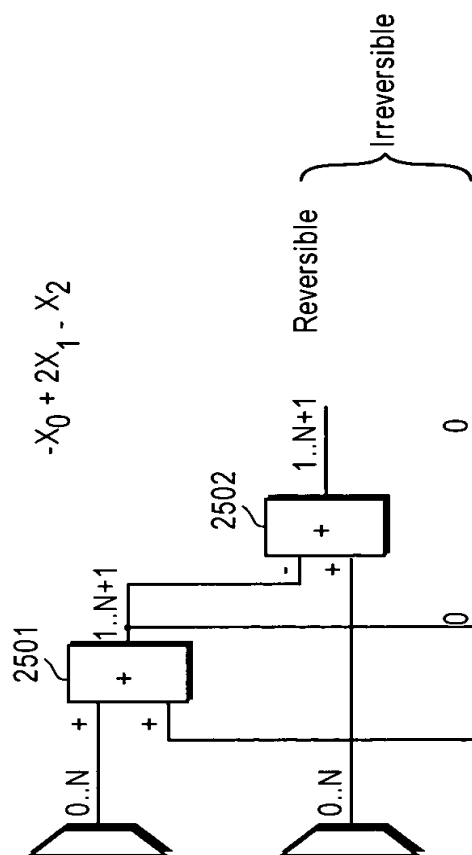


FIG. 25A

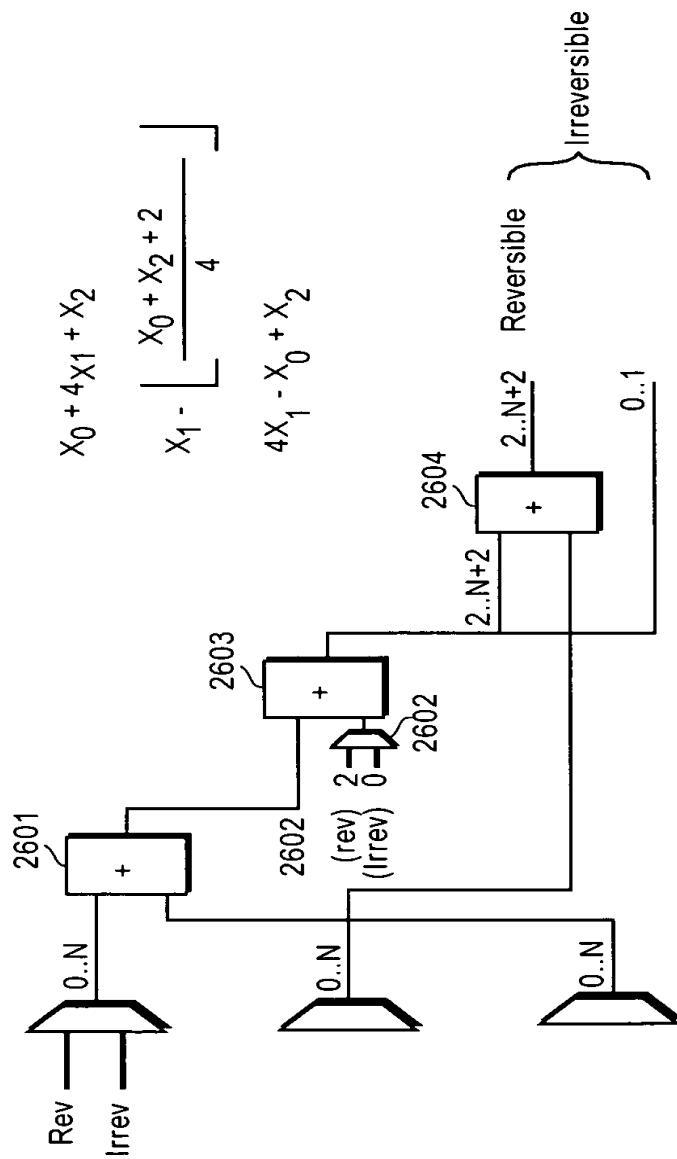


FIG. 26A

$$X_0 + 4X_1 + X_2$$

$$X_1 - \left[ \frac{X_0 + X_2 + 2}{4} \right]$$

$$4X_1 - X_0 + X_2$$

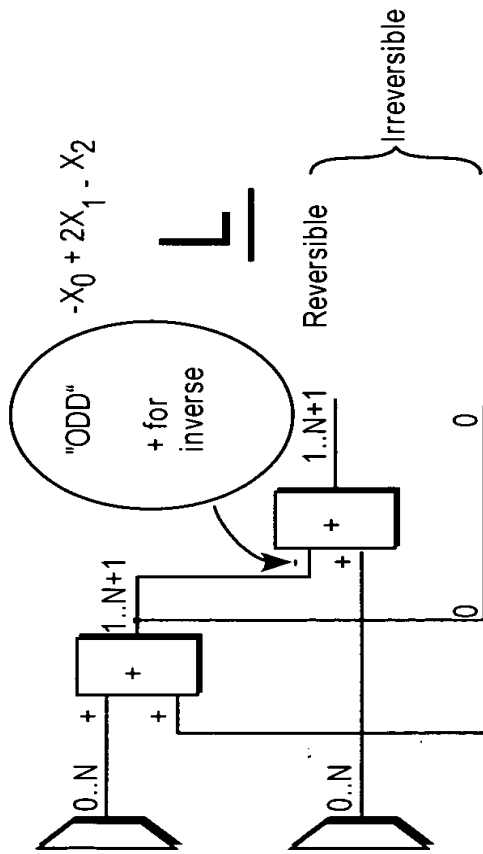


FIG. 25B

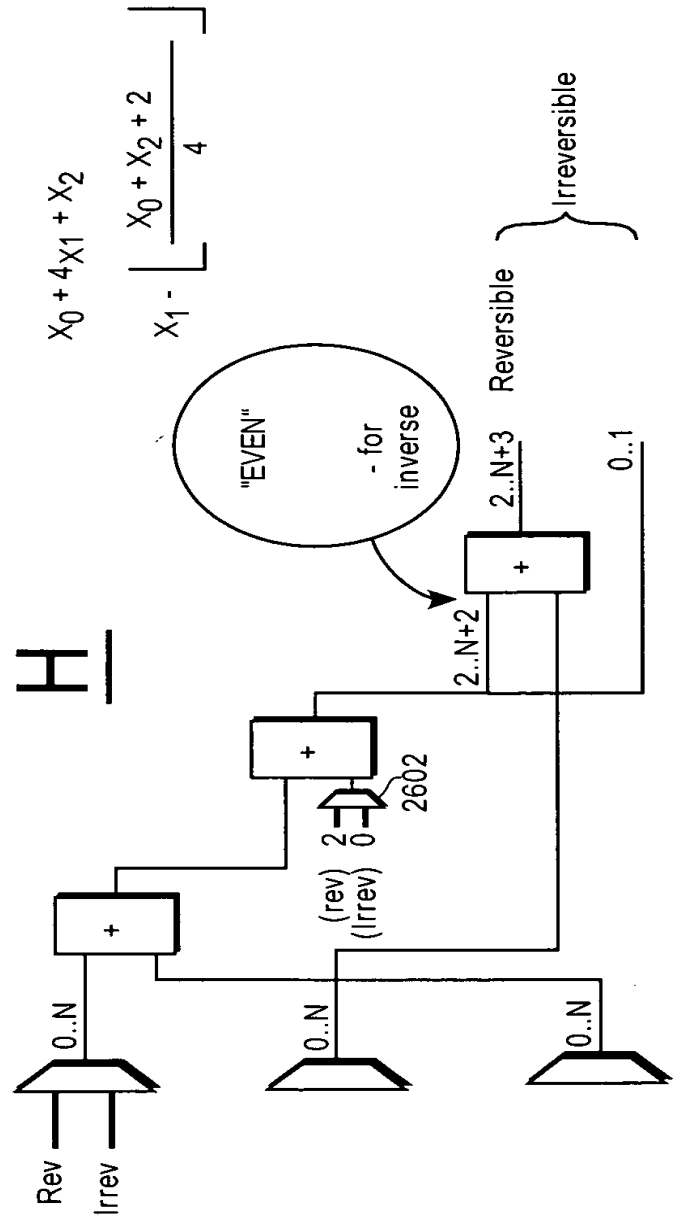


FIG. 26B

$$X_0 + 4X_1 + X_2$$

$$X_1 - \left[ \frac{X_0 + X_2 + 2}{4} \right]$$



FIG. 27

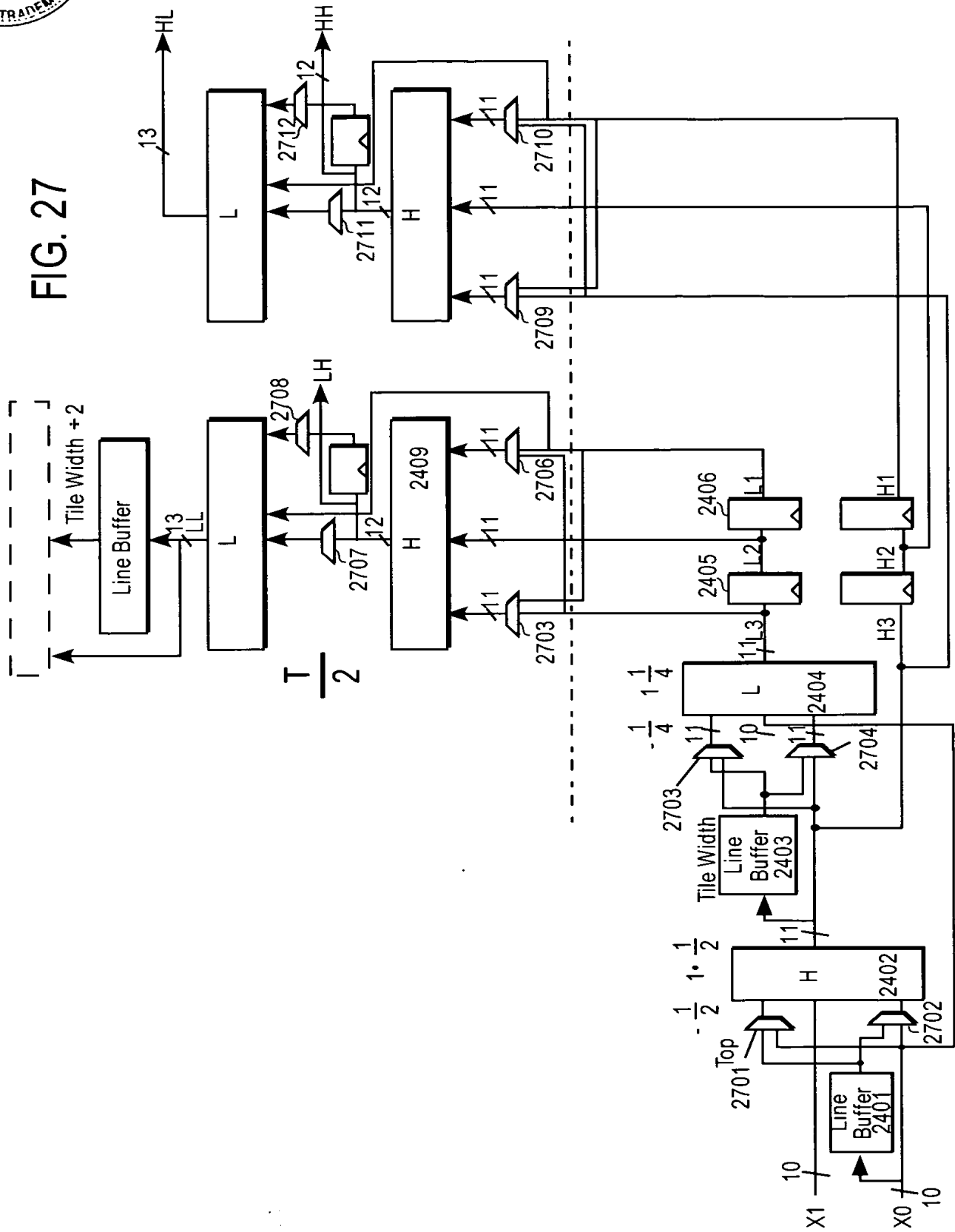




FIG. 28

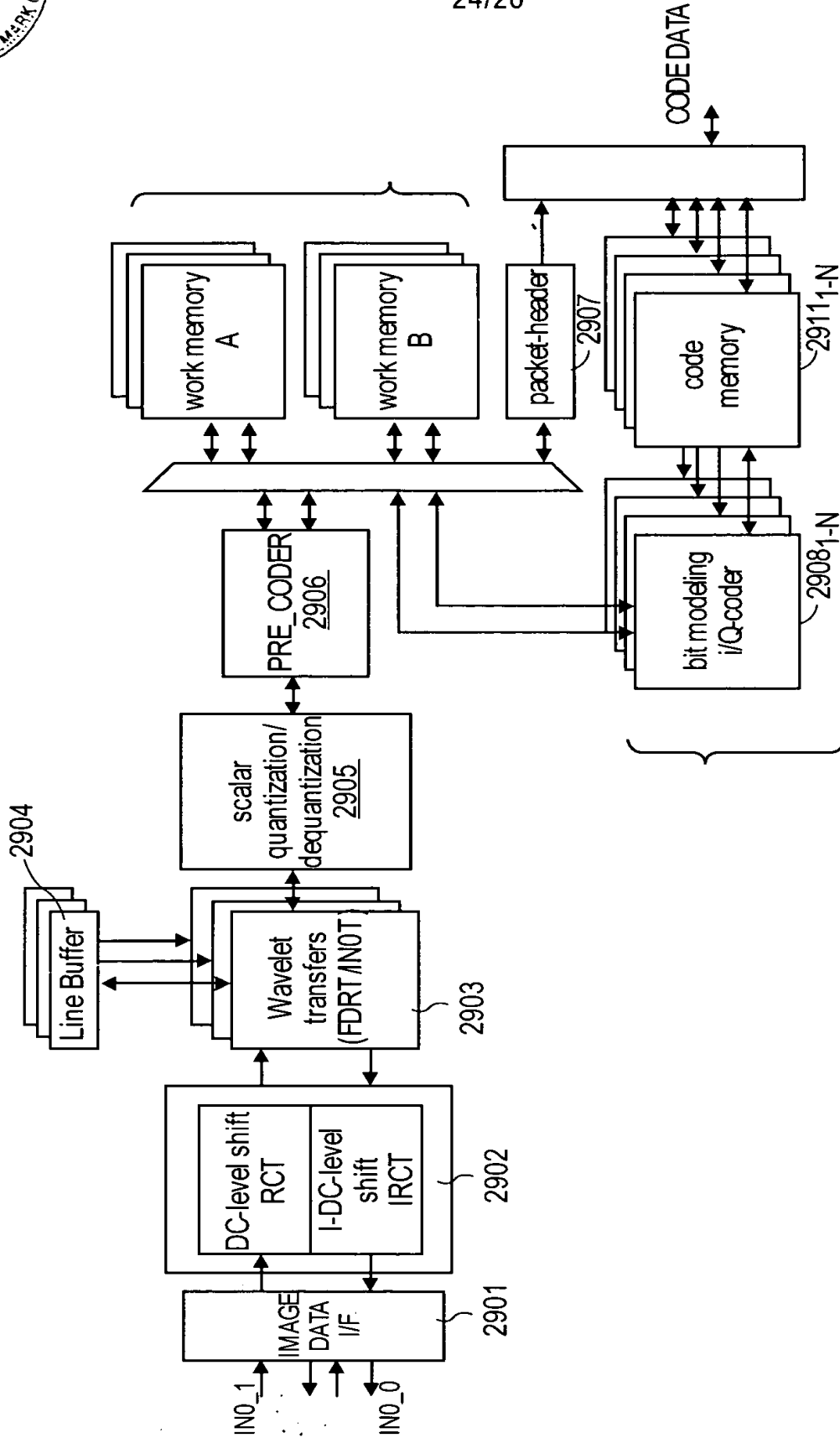


FIG. 29

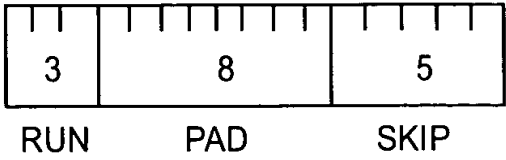


FIG. 30

8x8 region

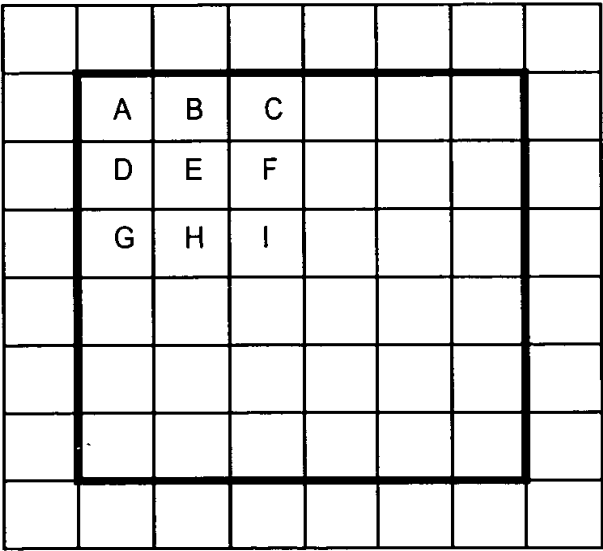


FIG. 31

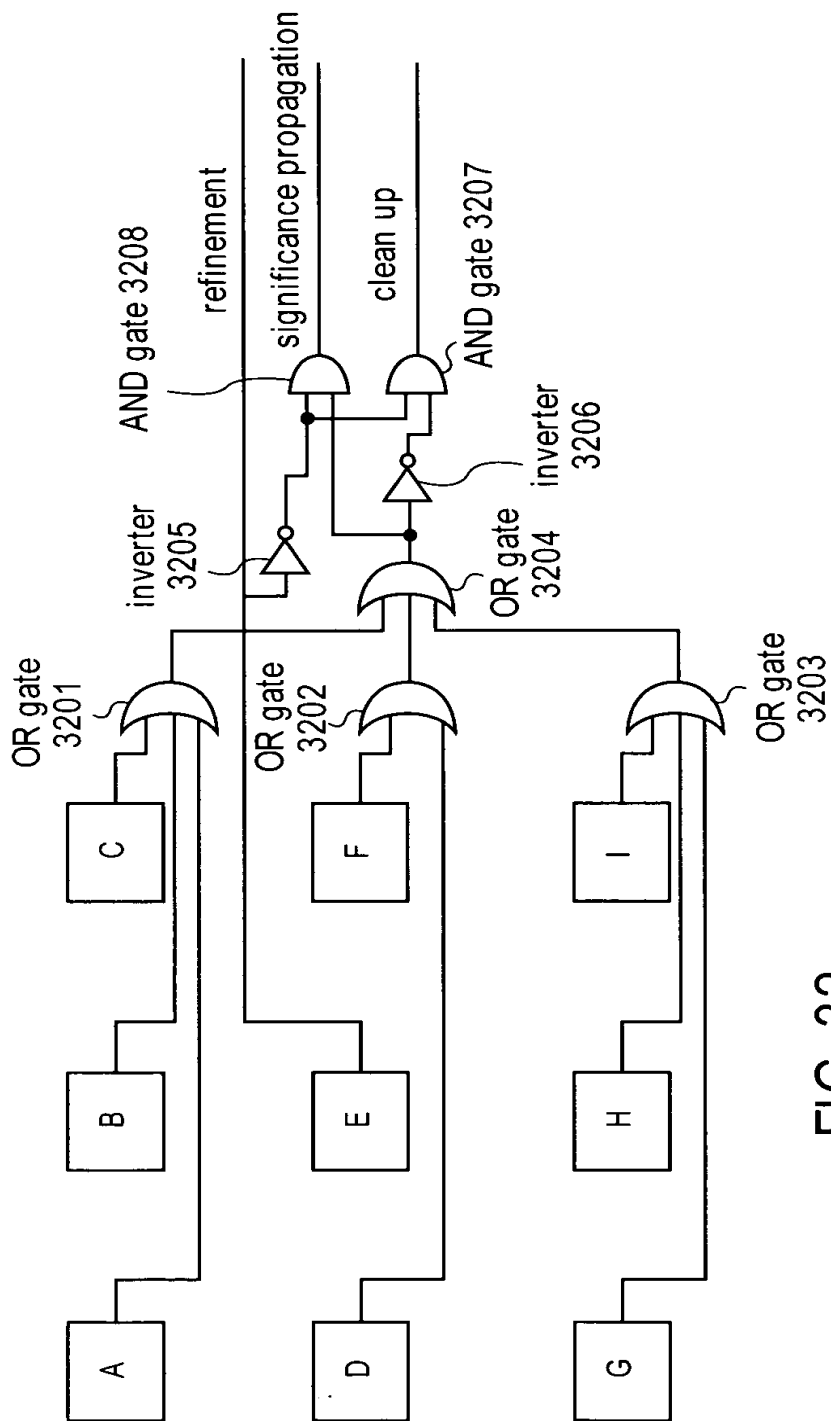


FIG. 32